

APPLICATION
COASTAL POLLUTANT REMEDIATION GRANT PROGRAM
FY 2006

Name of Applicant: Town of Provincetown

Contact Information

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Project Title: Provincetown Harbor Stormwater Mitigation Project—
Phase II

Amount Requested: \$ 116,640

Match Amount: \$ 38,885

TOTAL PROJECT COST: \$155,525

Project Summary:

A stormwater mitigation assessment project for Provincetown Harbor was completed during fiscal year 2003 (FY03) as part of the CPR grant program. The assessment provided the

background for a comprehensive stormwater management program to be implemented over the course of 5 to 10 years. The first step in implementing the assessment's recommendations was taken in fiscal year 2005, with the CPR-funded construction of stormwater mitigation measures on Atlantic Avenue. Included in that project was development of final designs for another high priority area, P-1. The stormwater improvements proposed in this grant application will be the second component of the comprehensive stormwater plan. Additional projects, such as the Wastewater Facilities Plan and the Harbor Plan, both identify stormwater runoff as a potential source of pollution to Provincetown Harbor.

If funded, this project will implement stormwater best management practices (BMPs) at an existing stormwater outfall (P-1) within the Provincetown Harbor watershed. This outfall was identified as one of the priority areas in the 2003 stormwater assessment. (See Attachment A) The objective of this project is to continue building upon the results of the FY03 stormwater assessment project and provide the following benefits:

- Design includes storage and infiltration of 0.5 to 1.0 inches of stormwater runoff from impervious areas of the contributing watersheds. By storing up to the first inch of runoff, the majority of contaminants from stormwater will be captured rather than being discharged into the Harbor.
- Stormwater mitigation measures will help the Town make further progress in its phased approach to the comprehensive stormwater management plan.

1. Describe the known or perceived sources of NPS pollution, the pollutants of concern, and the natural resources and/or recreational uses adversely affected by the pollution problem:

Provincetown Harbor, one of the deepest harbors in the world, with a mean tidal range of 9.1 feet, is a fragile resource that accommodates a multitude of activities and uses. These include piers, wharves, berthing for boats, lobstering, shellfishing, and swimming, among others. It supports benthic resources such as crustaceans, bivalve mollusks and eelgrass as well as providing an aquatic home for numerous biological species. The importance of the Harbor to both ecological systems and the recreational uses by the Town of Provincetown demands appropriate planning and assessment of external impacts that may degrade this fragile resource. (See Attachment A for locus map)

The primary pollutants of concern in stormwater runoff to Provincetown Harbor are bacteria and sediments. The stormwater runoff that discharges into Provincetown Harbor and the marine

water in the harbor have each been sampled extensively since at least 1978 for the presence of fecal coliform and other parameters. Sampling authorities have included the Town Health Department, the Massachusetts Division of Marine Fisheries (DMF), Normandeau Engineers (1988), and the Center for Coastal Studies (CCS; 1995; 1996). As part of the CPR FY03 Assessment, multiple discharges were sampled. The results of this sampling program are included in Attachment A. Results from the FY03 Assessment for P-1 showed fecal coliform counts as high as 20,800 cfu/100 mL. The location of all sampling points and the associated results are shown in Attachment A.

Natural resources and recreational uses have been impacted by pollution from stormwater discharges. This has been identified and documented in the FY03 Stormwater Assessment, the Final Needs Assessment Report for Wastewater Management Facilities Planning study (Needs Assessment Report), and the Provincetown Harbor Plan. Excerpts of these documents are included in Attachment E. Also included in Attachment E are the DMF Shellfish Growing Area Map, the Triennial Report for Provincetown Inner Harbor performed by DMF in July 2004, and the 1995 Sanitary Survey. An area of the Harbor where outfall P-1 discharges is classified as Prohibited for shellfishing. The Triennial Report and the Sanitary Survey identified 32 and 29 actual or potential pollution sources, respectively, most of which are storm drains. The P-1 discharge is on that list of pollution sources. The report also states that “the entire area from the Provincetown Inn to the outfall of Pilgrim Lake in the Town of Truro is impacted during and following rain events.”

This implementation project will be another step in improving the water quality of the harbor as it is impacted from stormwater runoff. This project will result in a public benefit to the Town. Not only will it mitigate impacts to recreational uses of the harbor, it will decrease the potential threats to human health.

2. Describe the project details and how the project will address the NPS pollution problem:

This project is proposed as the second phase of implementation of the stormwater assessment developed in the FY03 CPR grant program. The assessment report identified 25 discharge points to the Provincetown Harbor. This project will address stormwater that is currently discharged to Provincetown Harbor via an existing concrete drainpipe, designated as P-1. The recommended stormwater implementation for this CPR is to install new stormwater infiltration facilities prior to the existing outfall, located near the Provincetown Inn. Final designs for the implementation were developed as part of the FY05 CPR project. Outfall P-1 is located near the intersection of Commercial Street and Province Lands Road. The recommended mitigation for this outfall is to

install approximately 84 shallow infiltrator units (one group of 50 units and another group of 34 units). High groundwater in the design area makes shallow infiltrators the most feasible alternative. Based on final design information, there is ample room within the road right of way to allow the installation of the necessary infiltrators (see Attachment C for preliminary layout of the infiltrators). The existing stormwater collection pipes are installed at relatively low elevations. The infiltrators will require installation at higher elevations than the existing pipes. To ensure that stormwater flows to the infiltration units, drain manholes will be equipped with flow control structures, or weirs (see design plans).

As indicated in Attachment A, the results from the sampling program implemented as part of the FY03 CPR Stormwater Assessment show very high concentrations of bacterial pollution discharging from Outfall P-1. This project proposes to collect stormwater and infiltrate it into the ground as its primary means of treatment. This method will significantly improve the water quality that is discharged from the P-1 watershed area. The infiltration basins will be provided with sufficient volume to infiltrate the first flush of stormwater, which has the highest concentration of pollutants. A large amount of solids will be captured in the drain manholes and bacteria will be removed by infiltration. Once the infiltrators' storage capacity is reached, stormwater will be allowed to discharge by means of P-1. However, the discharged water will be of a considerably better water quality, with fewer suspended solids and bacteria.

Project Scope and Tasks:

1. Finalize bidding documents and Conservation Commission permitting.
2. Publicly bid implementation project.
3. Provide construction administration.
4. Provide resident project representative (RPR) services during construction. (Total of 120 hours of RPR services)
5. Construct implementation project by June 30, 2006, including preparation of "as-builts" record drawings.
6. Administer CPR grant, including preparation and submission of grant reimbursement.

3. Describe the operation and maintenance plan for the proposed BMP:

The Town of Provincetown has recently instituted a new schedule for maintenance of the stormwater collection system. Department of Public Works personnel perform cleaning of all of the Town's catchbasins in the spring, using the Town-owned clamshell truck. Additionally, there is \$50,000 in the operating budget for maintenance. This money is used to hire a vacuum truck contractor in the fall to clean structures that require vacuum cleaning. The Town also

performs interim cleaning on an as needed basis. Attachment F contains a Stormwater Operation and Maintenance Plan Assessment that was submitted in 2004. As mentioned, the Town has decided to pursue the alternative that is a combination of Town and contract work. Sandra Turner is the Deputy Director of the Public Works Department and can be contacted at (508) 487-7060.

Additionally, Provincetown is in the process of obtaining a Beneficial Use Determination (BUD) for use of its catchbasin cleanings in other areas of Town.

4. Explain how the project will result in clear water quality benefits:

The Division of Marine Fisheries continues to monitor Provincetown Harbor as part of the National Shellfish Sanitation Program. Sanitary Surveys are performed every 12 years. The last Sanitary Survey for Provincetown Inner Harbor was performed in May 1995, indicating that an extensive survey will be performed within the next few years. Additionally, there are triennial reports and annual reviews that evaluate the shellfishing classifications. This monitoring will indicate any improvements in water quality that result from implementation of the BMP.

In addition, Provincetown's Health Department conducts sampling at numerous points within the Harbor. Particular attention is paid to sampling after rain events. The primary concern of the Health Department analysis is the bacteria count. This monitoring will provide data to indicate any resultant improvements in water quality in the vicinity of P-1.

5. Describe the level of support and coordination for the project:

This project will serve the public interest because it is focused on remediation of bacterial pollution that is currently discharged to Provincetown Harbor. Stormwater discharged from outfall P-1 was identified to contain fecal coliform concentrations in excess of 20,000 cfu/100 ml. Stormwater is discharged directly to an area near recreational beaches, creating the potential for adverse impacts to human health.

In addition, it is in the public interest to restore the Harbor area shellfishing resources. The water at discharge P-1 is currently classified as prohibited with regard to shellfishing restrictions.

This project is consistent with community wide needs and priorities because it is part of a comprehensive strategy to improve the water quality of Provincetown Harbor. This strategy has

included implementing recommendations of the Town-wide wastewater facilities planning, such as construction of new wastewater collection facilities.

The Town of Provincetown has been proactive in working towards this goal. Through cooperative efforts of many of the Town Departments and Boards, and with County and State agencies, several initiatives have been (or are being) implemented that result in protecting and improving the water quality of Provincetown Harbor. Some of these initiatives include:

- Stormwater Mitigation Assessment Project (CZM FY2003)
- Wastewater Facilities Planning process
- Wastewater Collection and Treatment Project
- Provincetown Harbor Planning process
- Design and construction of stormwater BMPs for Atlantic Avenue (CZM FY2005)
- Design of stormwater BMPs at the Provincetown Inn (CZM FY2005)
- Beneficial Use Determination (BUD) for catchbasin cleanings
- Stormwater Operation and Maintenance Plan Assessment

There is unquestionable broad support for this project among Town departments, local-interest groups, and the public at large. This support is demonstrated by the enclosed letters (Attachment D) and from public participation that occurred during the stormwater assessment, wastewater facilities planning, and the harbor planning projects.

6. State whether your community is participating in the Commonwealth Capital Program and record your municipality's score:

Provincetown is in the process of applying for a Commonwealth Capital Program score. At the time of writing this application, a draft for the Commonwealth Capital Program had been developed by Michelle Jarusiewicz, Acting Assistant Town Manager. The intention was to finalize and submit the draft before Friday September 16, 2005. Questions regarding the application can be directed to Ms. Jarusiewicz at grantadm@provincetown-ma.gov.

7. **Explain the proposed budget in detail:**

	TASK			GRANT	MATCH	TOTAL
		Hours	Rate			
1	<i>Finalize Bide Documents and Conservation Commission permitting</i>					\$4,584.00
	Guertin	4	\$45.00		\$180.00	
	Turner	10	\$30.00		\$300.00	
	Duarte	10	\$28.00		\$280.00	
	Engineering Services				\$3,824.00	
2	<i>Bidding</i>					\$3,467.00
	Turner	12	\$30.00		\$360.00	
	Nicoll	12	\$16.00		\$192.00	
	Printing				\$500.00	
	Engineering Services				\$2,415.00	
3	<i>Construction</i>					\$135,709.00
	Guertin	4	\$45.00		\$180.00	
	Turner	25	\$30.00		\$750.00	
	Lemme	25	\$28.00		\$700.00	
	Duarte	20	\$28.00		\$560.00	
	Contractor			\$116,640.00	\$9,360.00	
	Engineering Services				\$7,519.00	
4	<i>Resident Project Representative</i>					\$8,111.00
	Engineering Services				\$8,111.00	
5	<i>As-builts</i>					\$2,127.00
	Guertin	4	\$45.00		\$180.00	
	Turner	5	\$30.00		\$150.00	
	Nicoll	8	\$16.00		\$128.00	
	Engineering Services				\$1,669.00	
6	<i>Grant Administration</i>					\$1,527.00
	Turner	8	\$30.00		\$240.00	
	Nicoll	5	\$16.00		\$80.00	
	Engineering Services				\$1,207.00	
	TOTAL			\$116,640.00	\$38,885.00	\$155,525.00

8. Supporting Material:

The following items are included with the application:

Attachment A – Figures

1. Locus Map
2. Stormwater Discharge Location Map
3. Watershed Assessment Summary Tables

Attachment B – Requested Supporting Material

1. Letter from the Town accepting the grant conditions.
2. Letter from the Department of Public Works (DPW) Deputy Director confirming the regular operation and maintenance schedule of the Town's stormwater facilities.
3. Required forms.

Attachment C - Preliminary Designs and Cost Estimates

Attachment D - Letters of Support

Attachment E - Supporting Documentation

1. DMF Triennial Report for Provincetown Harbor, Dated July 2004
2. DMF Sanitary Survey for Provincetown Harbor, Dated April 1995
3. Provincetown Harbor Plan (EXCERPTS), Dated July 1999
4. Final Needs Assessment Report for Wastewater Management Facilities Planning Study, Dated February 1997

Attachment F – Stormwater Operation and Maintenance Plan